

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

1/23

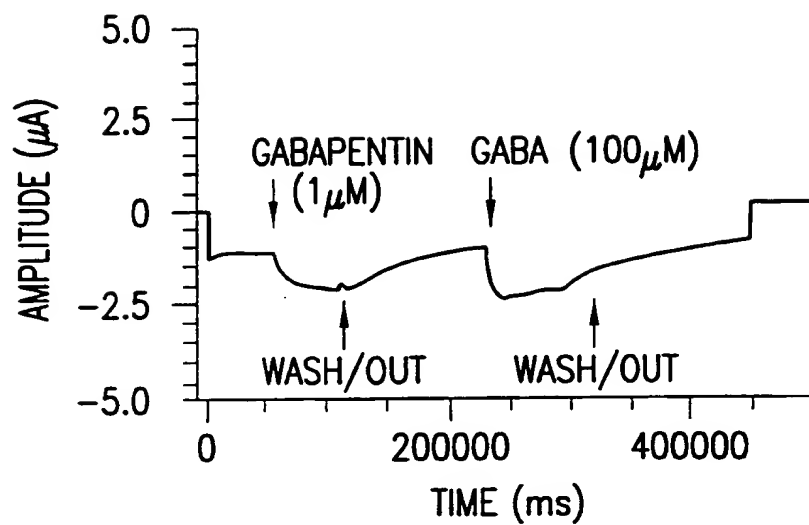


FIG. 1A

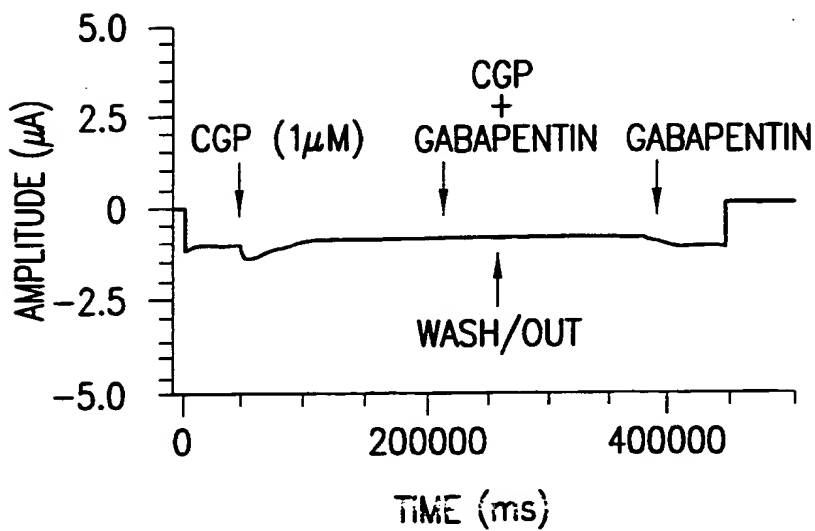


FIG. 1B

2/23

1 CCGCCCTCCC CCGGCCGAGC TCCAGGGCTG CCGCCTAGCA GCTCCCGGCG
51 GGAGAGCGGT TCAGAGCTCG CTCCCACCCC TTCCCGGCGT GATTGATCCG
101 TCACGGGCGC CTCCGCTGCC GCCGCCGCCG CCGCGGCCGT TCTGAGCCGA
151 GCCGGAACCC TAGCCCGAGA CGGAGCCGGG GCCCGGGCCG GCGCCATTGC
201 GCGGGCGCCG CGGGAAGACC TTGGCGCGGG GCGGCGGGCC GGGCCAGGCC
251 ATGCGGGCCG AGTGAGCCGG CGCCCGCAGC CCGCGGCGCG GCATGGCTTC
301 CCCGCGGAGC TCCGGGCAGC CCGGGCCGCC GCCGCCGCCG CCACCGCCGC
351 CCGCGCGCCT GCTACTGCTA CTGCTGCTGC CGCTGCTGCT GCCTCTGGCG
401 CCCGGGGCCT GGGGCTGGGC GCGGGGCGCC CCCC GGCCGC CGCCAGCAG
451 CCCGCCGCTC TCCATCATGG GCCTCATGCC GCTCACCAAG GAGGTGGCCA
501 AGGGCAGCAT CGGGCGCGGT GTGCTCCCCG CCGTGGAAC TGGCCATCGAG
551 CAGATCCGCA ACGAGTCACT CCTGCGCCCC TACTTCCTCG ACCTGCGGCT
601 CTATGACACG GAGTGCGACA ACGAAAAGG GTTGAAAGCC TTCTACGATG
651 CAATAAAATA CGGGCCGAAC CACTTGATGG TGTGTGGAGG CGTCTGTCCA
701 TCCGTCACAT CCATCATTGC AGAGTCCCTC CAAGGCTGGA ATCTGGTGCA
751 GCTTTCTTTT GCTGCAACCA CGCCTGTTCT AGCCGATAAG AAAAAATACC
801 CTTATTTCTT TCGGACCGTC CCATCAGACA ATGCGGTGAA TCCAGCCATT
851 CTGAAGTTGC TCAAGCACTA CCAGTGGAAG CGCGTGGGCA CGCTGACGCA
901 AGACGTTTCA AGGTTCTCTG AGGTGCGGAA TGACCTGACT GGAGTTCTGT
951 ATGGCGAGGA CATTGAGATT TCAGACACCG AGAGCTTCTC CAACGATCCC
1001 TGTACCAAGT TCAAAAAGCT GAAGGGGAAT GATGTGCGGA TCATCCTTGG
1051 CCAGTTTGAC CAGAATATGG CAGCAAAAGT GTTCTGTTGT GCATACGAGG
1101 AGAACATGTA TGGTAGTAAA TATCAGTGGA TCATTCCGGG CTGGTACGAG
1151 CTTTCTTGGT GGGAGCAGGT GCACACGGAA GCCAACTCAT CCCGCTGCCT
1201 CCGGAAGAAT CTGCTTGCTG CCATGGAGGG CTACATTGGC GTGGATTTTCG
1251 AGCCCCTGAG CTCCAAGCAG ATCAAGACCA TCTCAGGAAA GACTCCACAG
1301 CAGTATGAGA GAGAGTACAA CAACAAGCGG TCAGGCGTGG GGCCAGCAA
1351 GTTCCACGGG TACGCCTACG ATGGCATCTG GGTGATCGCC AAGACACTGC
1401 AGAGGGCCAT GGAGACACTG CATGCCAGCA GCCGGCACCA GCGGATCCAG
1451 GACTTCAACT ACACGGACCA CACGCTGGGC AGGATCATCC TCAATGCCAT
1501 GAACGAGACC AACTTCTTCG GGGTCACGGG TCAAGTTGTA TTCCGGAATG
1551 GGGAGAGAAT GGGGACCATT AAATTTACTC AATTTCAAGA CAGCAGGGAG
1601 GTGAAGGTGG GAGAGTACAA CGCTGTGGCC GACACACTGG AGATCATCAA
1651 TGACACCATC AGGTTCCAAG GATCCGAACC ACCAAAAGAC AAGACCATCA
1701 TCCTGGAGCA GCTGCGGAAG ATCTCCCTAC CTCTCTACAG CATCCTCTCT
1751 GCCCTACCA TCCTCGGGAT GATCATGGCC AGTGCTTTTC TCTTCTTCAA
1801 CATCAAGAAC CGGAATCAGA AGCTCATAAA GATGTCGAGT CCATACATGA
1851 ACAACCTTAT CATCCTTGGA GGGATGCTCT CCTATGCTTC CATATTTCTC

FIG.2A

SUBSTITUTE SHEET (RULE 26)

3/23

```
1901 TTTGGCCTTG ATGGATCCTT TGTCTCTGAA AAGACCTTTG AAACACTTTG
1951 CACCGTCAGG ACCTGGATTC TCACCGTGGG CTACACGACC GCTTTTGGGG
2001 CCATGTTTGC AAAGACCTGG AGAGTCCACG CCATCTTCAA AAATGTGAAA
2051 ATGAAGAAGA AGATCATCAA GGACCAGAAA CTGCTTGTGA TCGTGGGGGG
2101 CATGCTGCTG ATCGACCTGT GTATCCTGAT CTGCTGGCAG GCTGTGGACC
2151 CCCTGCGAAG GACAGTGGAG AAGTACAGCA TGGAGCCGGA CCCAGCAGGA
2201 CGGGATATCT CCATCCGCCC TCTCCTGGAG CACTGTGAGA ACACCCATAT
2251 GACCATCTGG CTTGGCATCG TCTATGCCTA CAAGGGACTT CTCATGTTGT
2301 TCGGTTGTTT CTTAGCTTGG GAGACCCGCA ACGTCAGCAT CCCCCTACTC
2351 AACGACAGCA AGTACATCGG GATGAGTGTC TACAACGTGG GGATCATGTG
2401 CATCATCGGG GCCGCTGTCT CCTTCCTGAC CCGGGACCAG CCCAATGTGC
2451 AGTTCTGCAT CGTGGCTCTG GTCATCATCT TCTGCAGCAC CATACCCTC
2501 TGCCTGGTAT TCGTGCCGAA GCTCATCACC CTGAGAACAA ACCCAGATGC
2551 AGCAACGCAG AACAGGCGAT TCCAGTTCAC TCAGAATCAG AAGAAAGAAG
2601 ATTCTAAAC GTCCACCTCG GTCACCAGTG TGAACCAAGC CAGCACATCC
2651 CGCCTGGAGG GCCTACAGTC AGAAAACCAT CGCCTGCGAA TGAAGATCAC
2701 AGAGCTGGAT AAAGACTTGG AAGAGGTCAC CATGCAGCTG CAGGACACAC
2751 CAGAAAAGAC CACCTACATT AAACAGAACC ACTACCAAGA GCTCAATGAC
2801 ATCCTCAACC TGGGAAACTT CACTGAGAGC ACAGATGGAG GAAAGGCCAT
2851 TTTAAAAAAT CACCTCGATC AAAATCCCCA GCTACAGTGG AACACAACAG
2901 AGCCCTCTCG AACATGCAAA GATCCTATAG AAGATATAAA CTCTCCAGAA
2951 CACATCCAGC GTCGGCTGTC CCTCCAGCTC CCCATCCTCC ACCACGCCTA
3001 CCTCCCATCC ATCGGAGGCG TGGACGCCAG CTGTGTCAGC CCCTGCGTCA
3051 GCCCCACCGC CAGCCCCCGC CACAGACATG TGCCACCCTC CTTCCGAGTC
3101 ATGGTCTCGG GCCTGTAAGG GTGGGGGGCC TGGGCCCCGG GCCTCCCCCG
3151 TGACAGAACC AACTGGGCA GAGGGGTCTG CTGCAGAAAC ACTGTGGCT
3201 CTGGCTGCGG AGAAGCTGGG CACCATGGCT GGCTCTCAG GACCACTCGG
3251 ATGGCACTCA GGTGGACAGG ACGGGGCAGG GGGAGACTTG GCACCTGACC
3301 TCGAGCCTTA TTTGTGAAGT CCTTATTTCT TCACAAAGAA GAGGAACGGA
3351 AATGGGACGT CTTCTTAAC ATCTGCAAAC AAGGAGGCGC TGGGATATCR
3401 AATTCCACCA CACTGGCGGC CCGCGTTGS TCSTAATCAT GGTCATAACT
3451 GTTTCCTGTG TTGAAATTGT TATCCGCTCC
```

FIG.2B

4/23

1 MASPRSSGQP GPPPPPPPP ARLLLLLLLP LLLPLAPGAW GWARGAPRPP
51 PSSPPLSIMG LMPLTKEVAK GSIGRGVLP VELAIEQIRN ESLLRPYFLD
101 LRLYDTECDN AKGLKAFYDA IKYGNHLMV FGGVCPSVTS IIAESLQGWN
151 LVQLSFAATT PVLADKKKYP YFFRTVPSDN AVNPAILKLL KHYQWKRVGT
201 LTQDVQRFSE VRNDLTGVLY GEDIEISDTE SFSNDPCTSV KKLKGNDVRI
251 ILGQFDQNMA AKVFCCAYEE NMYGSKYQWI IPGWYEPSWW EQVHTEANSS
301 RCLRKNLLAA MEGYIGVDFE PLSSKQIKTI SGKTPQQYER EYNNKRSVG
351 PSKFHGYAYD GIWVIAKTLQ RAMETLHASS RHQRIQDFNY TDHTLGRIIL
401 NAMNETNFFG VTGQVVFRNG ERMGTIKFTQ FQDSREVKVG EYNAVADTLE
451 IINDTIRFQG SEPPKDKTII LEQLRKISLP LYSILSALTI LGMIMASAF
501 FFNIKNRNQK LIKMSSPYMN NLIILGGMLS YASIFLFLD GSFVSEKTFE
551 TLCTVRTWIL TVGYTTAFGA MFAKTWRVHA IFKNVKMKKK IIKDQKLLVI
601 VGGMLLIDLC ILICWQAVDP LRRTVEKYSM EPDPAGRDIS IRPLLEHCEN
651 THMTIWLGIY YAYKGLLMLF GCFLAWETRN VSIPALNSDK YIGMSVYNVG
701 IMCIIGAASV FLTRDQPNVQ FCIVALVIIF CSTITLCLVF VPKLITLRTN
751 PDAATQNRFF QFTQNQKKED SKTSTSVTSV NQASTSRLEG LQSENHRLRM
801 KITELDKDLE EVTMQLQDTP EKTYYIKQNH YQELNDILNL GNFTSTDDGG
851 KAILKNHLDQ NPQLQWNTTE PSRTCKDPIE DINSPEHIQR RLSLQLPILH
901 HAYLPSIGGV DASCVSPCVS PTASPRHRHV PPSFRVMVSG L

FIG.3

5/23

1 atgctgctgc tgctgcttct gcttctcttc ctccgcccc tgggcgctgg cggggctcag
61 acccccaacg tcacctcgga aggttgccag attatacatc cgccctggga aggtggcatc
121 aggtaccgtg gcttgattcg cgaccaggtg aaggccatca atttcctgcc tgtggactat
181 gagattgaat atgtgtgccg gggcgaacgc gaggtggtgg ggcccaaggt gcgcaagtgc
241 ctggccaacg gctcctggac ggatatggac acaccagtc gctgtgtccg aatctgctcc
301 aagtcttatt tgaccctgga aaatgggaag gttttcctga cgggtgggga cctcccagct
361 ctggatggag cccgggtgga tttccgatgt gaccctgact tccatctggt gggcagctcc
421 cggagcatct gtagtcaggg ccagtggagc accccaagc cccactgcca ggtgaatcga
481 acgccacact cagaacggcg tgcagtatac atcggggcgc tgtttcccat gagcgggggc
541 tggccggggg gccaggcctg ccagcctgcg gtggagatgg cgctggagga cgtaacagc
601 cgcagagaca tcctgccgga ctacgagctc aagcttatcc accacgacag caagtgcgac
661 ccagggcaag ccaccaagta cttgtatgaa ctactctaca acgaccccat caagatcatc
721 ctcatgcccg gctgcagctc tgtgtccaca ctggtagccg aggctgcccg gatgtggaac
781 cttattgtgc tctcatatgg ctccagctca ccagccttgt caaaccgaca gcggtttcca
841 acgttctttc ggacacatcc atccgccaca ctccacaatc ccaccgggt gaaactcttc
901 gaaaagtggg gctggaagaa gattgccacc atccagcaga ctaccgaggt cttcacctca
961 aactggatg acctggagga gcgagtgaag gaggtggga ttgagatcac ttttcgacag
1021 agtttcttct cagatccagc tgtgcctgtt aaaaacctga agcgtcaaga tgctcgaatc
1081 atcgtgggac ttttctatga gaccgaagcc cggaaagtgt tttgtgaggt ctataaggaa
1141 cggctctttg ggaagaagta tgtctggttt ctcatcgggt ggtatgctga caactggttc
1201 aaaacctatg acccgtcaat caattgtaca gtagaagaga tgactgaggc ggtggagggc
1261 catatcacca cggagattgt catgctgaac cctgccaaaca cccgaagcat ttccaacatg
1321 acatcacagg aatttgtgga gaaactaacc aagcggctga aaagacaccc tgaggagact
1381 ggaggcttcc aggaggcacc actggcctat gatgctatgt gggccttggc tttggccttg
1441 aacaagacct ctggaggagg tggccgttca ggagtgcgcc tggaggactt taactacaac
1501 aaccagacca ttacagacca aatctaccgg gccatgaact cctcctcctt tgaggggtgtt
1561 tctggccacg tggcttttga tgccagcggc tcccgatgg catggacgct tatcgagcag
1621 ctacagggcg gcagctacaa gaagatcggc tactacgaca gcaccaagga tgatctttcc
1681 tgggtccaaa cagacaagtg gatcggaggg tctccccag ccgaccagac cttggtcatc
1741 aagacattcc gtttcctgtc acagaaactc tttatctccg tctcagttct ctccagcctg
1801 ggcattgttc ttgtgttgt ctgtctgtcc tttaacatct acaactccca cgctcgttat
1861 atccagaatt cccagcccaa cctgaacaat ctgactgctg tgggctgctc actggcactg
1921 gctgttgtct tccctctcgg gctggatggt taccacatag ggagaagcca gttcccgttt
1981 gtctgccagg cccgcctttg gctcttgggc ttgggcttta gtctgggcta tggctctatg
2041 ttcaccaaga tctggtgggt ccacacagtc ttcacgaaga aggaggagaa gaaggagtgg
2101 aggaagaccc tagagccctg gaaactctat gccactgtgg gcctgctggt gggcatggat
2161 gtcctgactc ttgccatctg gcagattgtg gacccttgc accgaacat tgagactttt

FIG. 4A

SUBSTITUTE SHEET (RULE 26)

6/23

2221 gccaaaggagg aaccaaagga agacatcgat gtctccattc tgccccagtt ggagcactgc
2281 agctccaaga agatgaatac gtggcttggc attttctatg gttacaaggg gctgctgctg
2341 ctgctgggaa tctttcttgc ttacgaaacc aagagcgtgt ccactgaaaa gatcaatgac
2401 cacagggccg tgggcatggc tatctacaat gtcgcggtcc tgtgtctcat cactgctcct
2461 gtgaccatga tcctttccag tcagcaggac gcagcctttg cctttgcctc tctggccatc
2521 gtgttctctt cctacatcac tctggttgtg ctctttgtgc ccaagatgcg caggctgatc
2581 acccgagggg aatggcagtc tgaaacgcag gacaccatga aaacaggatc atccaccaac
2641 aacaacgagg aagagaagtc ccgactgttg gagaaggaaa accgagaact ggaaaagatc
2701 atcgctgaga aagaggagcg cgtctctgaa ctgcgccatc agctccagtc tcggcagcaa
2761 ctccgctcac ggcgccaccc cccaacaccc ccagatccct ctgggggcct tcccagggga
2821 ccctctgagc cccctgaccg gcttagctgt gatgggagtc gagtacattt gctttacaag
2881 tga

FIG.4B

7/23

MLLLLLLLLFLRPLGAGGAQTPNVTSEGCQIIHPPWEGGIRYRGLIRDQVKAINFLPVDY
 EIEYVCRGEREVVGPKVRKCLANGSWTDMTPSRCVRICKSYLTLENGKVFLTGGDLPA
 LDGARVDFRCDPDFHLVGSSRSICSGQWSTPKPHCQVNRTPHSERRAVYIGALFPMSSG
 WPGGQACQPAVEMALEDVNSRRDILPDYELKLIHDSKCDPGQATKYLYELLYNDPIKII
 LMPGCSSVSTLVAEAARMWNLI VLSYGSSSPALSNRQRFPTFFRTHPSATLHNPTRVKLF
 EKWGWKKIATIQQTTEVFTSTLDDLEERVKEAGIEITFRQSFFSDPAVPVKNLKRQDARI
 IVGLFYETEARVCFEYKERLFGKKYVWFLIGWYADNWFKYDPSINCTVEEMTEAVEG
 HITTEIVMLNPANTRISNMTSQEFVEKLT KRLKRHPEETGGFQEAPLAYDAIWALALAL
 NKTSGGGGRSGVRLEDNFYNNQTTTDQIYRAMNSSSFEGVSGHVVDASGSRMAWTLIEQ
 LQGGSYKKIGYYDSTKDDLWSKTDKWIGGSPPADQTLVIKTRFLSQKLFISVSVLSSL
 GIVLAVVCLSFNIYN SHARYIQNSQPNLNNLTAVGCSLALAVVFLGLDGYHIGRSQFPF
 VCQARLWLLGLGFSLGYGSMFTKIWWVHTVFTKKEEKKWRKTLEPWKLYATVGLLVGMD
 VLT LAIWQIVDPLHRTIETFAKEPKEDIDVSILPQLEHCSSKKMNTWLGIFYGYKGLLL
 LLGIFLAYETKSVSTEKINDHRAVGMAIYNVAVLCLITAPVTMILSSQDAAFAFASLAI
 VFSSYITLVVLFVPMRRLITRGEWQSETQDTMKTGSSTNNNEEEKSRLL EKENRELEKI
 IAEKEERVSELRHQLQSRQQLRSRRHPPTPPDPSSGGLPRGPSEPPDRLSCDGSRVHLLYK

FIG.5

MLLLLLLAPLFLRPPGAGGAHTPNATSEGCQIIHPPWEGGIRYRGLTRDQV
 KAINFLPVDY EIEYVCRGEREVVGPKVRKCLANGSWTDMTPSRCVRICK
 KSYLTLENGKVFLTGGDLPALDGARADFRCDPDFHLVGSSRSICSGQWST
 PKPHCQVNRTPHSERRAVYIGALFPMSSGWPGGQACQPAVEMALEDVNS
 RRDILPDYELKLIHDSKCDPGQATKYLYELLYNDPIKII LMPGCSSVSTLV
 AEAARMWNLI VLSYGSSSPALSNRQRFPTFFRTHPSATLHNPTRVKLF EKW
 GWKKIATIQQTTEVFTSTLDDLEERVKEAGIEITFRQSFFSDPAVPVKNLKRQ
 DARIIVGLFYETEARVCFEYKERLFGKKYVWFLIGWYADNWFKIYDPS
 INCTVDEMTEAVEGHITTEIVMLNPANTRISNMTSQEFVEKLT KRLKRHPE
 ETGGFQEAPLAYDAIWALALALNKTSGGGGRSGVRLEDNFYNNQTTITDQI
 YRAMNSSSFEGVSGHVVDASGSRMAWTLIEQLQGGSYKKIGYYDSTKDD
 LWSKTDKWIGGSPPADQTLVIKTRFLSQKLFISVSVLSSLGIVLAVVCLSF
 NIYN SHVRYIQNSQPNLNNLTAVGCSLALAAVFLGLDGYHIGRNQFPFV
 CQARLWLLGLGFSLGYGSMFTKIWWVHTVFTKKEEKKWRKTLEPWKLY
 ATVGLLVGMDVLT LAIWQIVDPLHRTIETFAKEPKEDIDVSILPQLEHCSS
 RKMNTWLGIFYGYKGLLLLLLGIFLAYETKSVSTEKINDHRAVGMAIYNVA
 VLCLITAPVTMILSSQDAAFAFASLAI VFSSYITLVVLFVPMIRRLITRGE
 WQSEAQDTMKTGSSTNNNEEEKSRLL EKENRELEKI IAEKEERVSELRHQLQ
 SRQQLRSRRHPPTPPEPSGGLPRGPPEPPDRLSCDGSRVHLLYK

FIG.6A

8/23

```

1  atgttgctgc tgctgctact ggcgccactc ttcctccgcc ccccgggcgc gggcggggag
61  cataccccca acgccacctc agaagggtgc cagatcatac acccgccctg ggaagggggc
121 atcaggtacc ggggcctgac tcgggaccag gtgaaggcta tcaacttcct gccagtggac
181 tatgagattg agtatgtgtg ccggggggag cgcgagggtg tggggcccaa ggtccgcaag
241 tgcctggcca acggctcctg gacagatatg gacacacca gccgctgtgt ccgaatctgc
301 tccaagtctt atttgaccct ggaaaatggg aaggttttcc tgacgggtgg ggacctccca
361 gctctggacg gagcccgggc ggatttcagg tgtgaccccg acttccatct ggtgggcagc
421 tcccggagca tctgtagtca gggccagtgg agcaccacca agccccactg ccaggtgaat
481 cgaacgccac actcagaacg gcgcgcagtg tacatcgggg cactgtttcc catgagcggg
541 ggctggccag ggggccaggc ctgccagccc gcggtggaga tggcgtgga ggacgtgaat
601 agccgcaggg acatcctgcc ggactatgag ctcaagctca tccaccacga cagcaagtgt
661 gatccaggcc aagccaccaa gtacctatat gagctgctct acaacgacct tatcaagatc
721 atccttatgc ctggctgcag ctctgtctcc acgctggtgg ctgaggctgc taggatgtgg
781 aacctcattg tgctttccta tggctccagc tcaccagccc tgtcaaaccg gcagcgtttc
841 cccactttct tccgaacgca cccatcagcc acactccaca accctaccgg cgtgaaactc
901 tttgaaaagt ggggctggaa gaagattgct accatccagc agaccactga ggtcttcact
961 tcgactctgg acgacctgga ggaacgagtg aaggaggctg gaattgagat tactttccgc
1021 cagagtttct tctcagatcc agctgtgccc gtcaaaaacc tgaagcgcca ggatgccga
1081 atcatcgtgg gacttttcta tgagactgaa gcccggaaag ttttttgtga ggtgtacaag
1141 gagcgtctct ttgggaagaa gtacgtctgg ttcctcattg ggtggtatgc tgacaattgg
1201 ttcaagatct acgacccttc tatcaactgc acagtggatg agatgactga ggcggtggag
1261 ggccacatca caactgagat tgtcatgctg aatcctgcca ataccgcag catttccaac
1321 atgacatccc aggaatttgt ggagaaacta accaagcgac tgaagagaca ccctgaggag
1381 acaggaggct tccaggaggc accgctggcc tatgatgcca tctgggcctt ggcactggcc
1441 ctgaacaaga catctggagg aggcggccgt tctggtgtgc gcctggagga cttcaactac
1501 aacaaccaga ccattaccga ccaaacttac cgggcaatga actcttcgtc ctttgagggt
1561 gtctctggcc atgtggtgtt tgatgccagc ggctctcgga tggcatggac gcttatcgag
1621 cagcttcagg gtggcagcta caagaagatt ggctactatg acagcaccaa ggatgatctt
1681 tcctggtcca aaacagataa atggattgga ggggtcccccc cagctgacca gaccctggtc
1741 atcaagacat tccgcttcct gtcacagaaa ctctttatct ccgtctcagt tctctccagc
1801 ctgggcattg tcctagctgt tgtctgtctg tcctttaaca tctacaactc acatgtccgt
1861 tatatccaga actcacagcc caacctgaac aacctgactg ctgtgggctg ctactggct
1921 ttagctgctg tcttccccct ggggctcgat ggttaccaca ttgggaggaa ccagtttctt
1981 ttcgtctgcc agggccgcct ctggctcctg ggcctgggct ttagtctggg ctacggttcc
2041 atgttcacca agatttggtg ggtccacacg gtcttcacaa agaaggaaga aaagaaggag
2101 tggaggaaga ctctggaacc ctggaagctg tatgccacag tgggcctgct ggtgggcatg
2161 gatgtcctca ctctcgccat ctggcagatc gtggaccctc tgcaccggac cattgagaca

```

FIG.6B-1

9/23

2221 tttgccaagg aggaacctaa ggaagatatt gacgtctcta ttctgccccca gctggagcat
2281 tgcagctcca ggaagatgaa tacatggctt ggcattttct atggttaciaa ggggctgctg
2341 ctgctgctgg gaatcttcct tgcttaygag accaagagtg tgtccactga gaagatcaat
2401 gatcaccggg ctgtgggcat ggctatctac aatgtggcag tcctgtgcct catcactgct
2461 cctgtcacca tgattctgtc cagccagcag gatgcagcct ttgcctttgc ctctcttgcc
2521 atagttttct cctcctatat cactcttggt gtgctctttg tgccaagat gcgcaggctg
2581 atcacccgag gggaatggca gtcggaggcg caggacacca tgaagacagg gtcacgcacc
2641 aacaacaacg aggaggagaa gtcccggctg ttggagaagg agaaccgtga actggaaaag
2701 atcattgctg agaaagagga gcgtgtctct gaactgcgcc atcaactcca gtctcggcag
2761 cagctccgct cccggcgcca cccaccgaca ccccagAAC cctctggggg cctgcccgag
2821 ggaccccctg agccccccga ccggcttagc tgtgatggga gtcgagtga tttgctttat
2881 aagtga

FIG.6B-2

10/23

1 atgctgctgc tgctgctggc gccactcttc ctccgcccc cgggcgcggg cggggcgcag
61 accccaacg ccacctcaga aggttgccag atcatacacc cgccctggga agggggcatc
121 aggtaccggg gcctgactcg ggaccagggt aaggctatca acttcctgcc agtggactat
181 gagattgagt atgtgtgccg gggggagcgc gaggtggtgg ggcccaaggt ccgcaagtgc
241 ctggccaacg gctcctggac agatatggac acaccagcc gctgtgtccg aatctgctcc
301 aagtcttatt tgaccctgga aaatgggaag gttttcctga cgggtgggga cctcccagct
361 ctggacggag cccgggtgga tttccggtgt gaccccgact tccatctggt gggcagctcc
421 cggagcatct gtagtcaggg ccagtggagc accccaagc cccactgcc a ggtgaatcga
481 acgccacact cagaacggcg cgcagtgtac atcggggcac tgtttcccat gagcgggggc
541 tggccagggg gccaggcctg ccagcccgcg gtggagatgg cgctggagga cgtgaatagc
601 cgcagggaca tcctgccgga ctatgagctc aagctcatcc accacgacag caagtgtgat
661 ccaggccaag ccaccaagta cctatatgag ctgctctaca acgaccctat caagatcatc
721 cttatgcctg gctgcagctc tgtctccacg ctggtggctg aggctgctag gatgtggaac
781 ctcatgtgct tttcctatgg ctccagctca ccagccctgt caaaccggca gcgtttcccc
841 actttcttcc gaacgcaccc atcagccaca ctccacaacc ctacccgcgt gaaactcttt
901 gaaaagtggg gctggaagaa gattgctacc atccagcaga cactgaggt cttcacttcg
961 actctggacg acctggagga acgagtgaag gaggtggaa ttgagattac tttccgccag
1021 agtttcttct cagatccagc tgtgcccgtc aaaaacctga agcgccagga tgcccgaatc
1081 atcgtgggac ttttctatga gactgaagcc cggaaagttt tttgtgaggt gtacaaggag
1141 cgtctctttg ggaagaagta cgtctggttc ctcatgggt ggtatgctga caattggttc
1201 aagatctacg acccttctat caactgcaca gtggatgaga tgactgaggc ggtggagggc
1261 cacatcacia ctgagattgt catgctgaat cctgccataa cccgcagcat ttccaacatg
1321 acatcccagg aatttgtgga gaaactaacc aagcgactga aaagacaccc tgaggagaca
1381 ggaggcttcc aggaggcacc gctggcctat gatgccatct gggccttggc actggccctg
1441 aacaagacat ctggaggagg cggccgttct ggtgtgcgcc tggaggactt caactacaac
1501 aaccagacca ttaccgacca aatctaccgg gcaatgaact ctctgcctt tgagggtgtc
1561 tctggccatg tgggtgttga tgccagcggc tctcggatgg catggacgt tatcgagcag
1621 cctcagggtg gcagctacaa gaagattggc tactatgaca gcaccaagga tgatctttcc
1681 tgggtccaaa cagataaatg gattggaggg tccccccag ctgaccagac cctggtcatc
1741 aagacattcc gcttcctgtc acagaaactc tttatctccg tctcagttct ctccagcctg
1801 ggcattgtcc tagctgttgt ctgtctgtcc ttaacatct acaactcaca tgtccgttat
1861 atccagaact cacagcccaa cctgaacaac ctgactgctg tgggctgctc actggcttta
1921 gctgctgtct tccccctggg gctcgatggg taccacattg ggaggaacca gtttcctttc
1981 gtctgccagg cncgcctctg gctcctgggc ctgggcttta gtctgggcta cggttccatg
2041 ttcaccaaga tttggtgggt ccacacgggc ttcacaaaga aggaagaaaa gaaggagtgg
2101 aggaagactc tggaaccctg gaagctgtat gccacagtgg gcctgctggt gggcatggat
2161 gtcctcactc tcgccatctg gcagatcgtg gaccctctgc accggaccat tgagacattt
2221 gccaaggagg aacctaagga agatattgac gtctctattc tgccccagct ggagcattgc
2281 agctccagga agatgaatac atggcttggc attttctatg gttacaaggg gctgctgctg

FIG. 7A

11/23

```

2341 ctgctgggaa tcttccttgc ttatgagacc aagagtgtgt ccactgagaa gatcaatgat
2401 caccgggctg tgggcatggc tatctacaat gtggcagtc tgtgcctcat cactgctcct
2461 gtcacatga ttctgtccag ccagcaggat gcagcctttg cctttgcctc tcttgccata
2521 gttttctcct cctatatcac tcttgttgtg ctctttgtgc ccaagatgcg caggctgatc
2581 acccgagggg aatggcagtc ggaggcgag gacacatga agacagggtc atcgaccaac
2641 aacaacgagg aggagaagtc ccggctgttg gagaaggaga accgtgaact ggaaaagatc
2701 attgctgaga aagaggagcg tgtctctgaa ctgcgccatc aactccagtc tcggcagcag
2761 ctccgctccc ggcgccaccc accgacaccc ccagaaccct ctgggggcct gcccagggga
2821 cccctgagc ccccgaccg gcttagctgt gatgggagtc gagtgcattt gctttataag
2881 tgagggtagg gtgagggagg acaggccagt agggggaggg aaaggagag ggggaaggga
2941 ggggactcag gaagcagggg gtcccatcc ccagctggga agaacatgct atccaatctc
3001 atctcttgta aatacatgtc ccctgtgag ttctgggctg atttgggtct ctcatacctc
3061 tgggaaacag acctttttct ctcttactgc ttcattgaat tttgtatcac ctcttcacaa
3121 tttagttcgt acctggcttg aagctgctca ctgctcacac gctgcctcct cagcagcctc
3181 actgcatctt tctcttccca tgcaacaccc tcttctagtt accacggcaa cccctgcagc
3241 tcctctgcct ttgtgctctg ttctgtcca gcagggtct cccaacaagt gctctttcca
3301 ccccaaaggg gcctctcctt ttctccactg tcataatctc ttccatctt acttgccctt
3361 ctatactttc tcacatgtgg ctccccctga attttgcttc ctttgggagc tcattctttt
3421 cgccaaggct cacatgctcc ttgcctctgc tctgtgcact cagctcagc acacatgcat
3481 cctccccctc cctgcgtgtg cccactgaac atgctcatgt gtacacacgc ttttcccgtg
3541 tgctttcttc atgttcagtc acatgtgctc tcgggtgcc tgcattcaca gctacgtgtg
3601 cccctctcat ggtcatgggt ctgcccttga gcgtgtttgg gtaggcatgt gcaatttgtc
3661 tagcatgctg agtcatgtct ttctatattg cacacgtcca tgtttatcca tgtactttcc
3721 ctgtgtaccc tccatgtacc ttgtgtactt tcttccctta aatcatggta ttcttctgac
3781 agagccatat gtaccctacc ctgcacattg ttatgcactt ttccccaatt catgtttggt
3841 ggggccatcc acacctctc cttgtcacag aatctccatt tctgctcaga ttcccccat
3901 ctccattgca ttcatgtact accctcagtc tacactcaca atcatcttct cccaagactg
3961 ctcccttttg ttttgtgttt ttttgagggg aattaaggaa aaataagtgg gggcaggttt
4021 ggagagctgc ttccagtgga tagttgatga gaatcctgac caaaggaagg cacccttgac
4081 tgttgggata gacagatgga cctatgggtt gggaggtggt gtccctttca cactgtggtg
4141 tctcttgggg aaggatctcc ccgaatctca ataaaccagt gaacagtgtg actcggaaaa
4201 aaaaaaaaaa aaaaaaaaaa

```

FIG. 7B

12/23

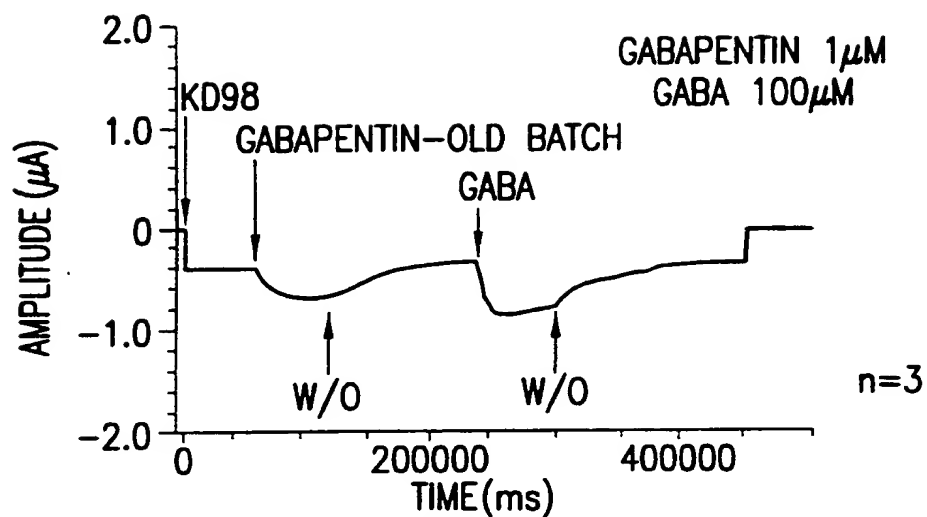
MFVRSSWLLWGTIVWASAEPTLHIGGTFPMESGGWGAGGACLPVEMALKDVNSRLDILPGYVLMNTNHNNSQ
CQGLAMQQLYDFLYKPPTKLMLLIGCSPVTTVIAEAPVWKLWLSYGGSSPALSNRNRFTLFRTHPSANMQNP
TRIIMEKFKWKRFTILMSVEEVFTTAKDLEVSERKKGIKVDQRQSFYGDPTDAMKTLQRQDARIIVGLFYVTEAR
KVLQAYHHGLYGRRYVMFFIGWYADTWYIPPEEHLNCTAEQMTAAEYHFTTESVMLSRLNIPAISEMGTGMQFQ
QRLTQYFQKDTANVGGFPEAPLAYDAVWALALAFNCTRNMLPSHIRENFYDNKVIAADTLFQCCKNTSFRGVSGK
VMFSDSGDRIARTQIEQMGGKYKIMGYDYDTSGDLEWYNKEQLNGKGPDPSTVIKTFNSYSDFLIFSSITILQY
FSQFLALLHVSSFTFLHKNIIFQSQPECNNILLIGCSCLFSLFLIGLPSDDISISESLFPLCHARVTILLFGFT
FAYGSMFAKWIIVHRMGATENQQLASRQPISSKFYVIVAALTAVDVFCVFWLIDPLHLTEQKFPLFADSEEDE
MIMPVLQCCSQNQEVWIGIIMGFKCLLLVFGTFLSYETRNLKLRFINDSRFVGLAIYNVAVMTLVTAPVVTLLIH
GKVDANFAFISLTSVLICTYISVGLIYGPKIRHIIKVPPSADEIQLNGNVGPGVMSKVDQKRYDMLKKE

FIG.8A

MNIFRRHGGIPLPLGVFTVQKEGFPDALPAIRTALSHVHSRSCILQYRLEMIVKDTCKTSQGMKALFDLIA SRP
RPVAILGGQCTEVNEPIAMALKYWQIVQLSYAETHAMNGQLQFTTFFRVVPGSRNTNMAKCKFVNHFGWKRVGT
KQNDQPRYALVRDVRILVDVDEEMAATVLCAGYHRGMYGDNVYVWILPGYHSDRWLNQTHDNCTVEEMREAAKNHF
SVEFALTRRDVDTKIVGNTVSPYVTLNLFQRAGDVWNEITQLDPNNTWRGYLYDGLWTLAIALSHSMGDNAEFSHH
KMMEATDNSSFQGLTGKVKFANNERLGLVDIKQSDGQYVPFAVYDGADDEFKIIDSTTKGWSPPLDSTITERRE
HISSILFLAMSLALIGIFLALIFLLINFYRNHRFIKMSSPNLNNIIAGSICTFASVIMGLDTRIVSPDVFW
LCYKWTWLTLCIGFTLSFGAMFSKTRVHSIFTNIRMDRKAIKDSKLFILGILLFIDICVLVTWAFVSPFSYTV EQ
FKLIFSARRNIVIIPEVEKCNSSHSGVFQAVLYAVKGVLMLGCFLAWETRHNVPALNDSKYIGTSVYCCVMS
VLGLSTSVILQERVNEMFSLASFFVIFSTTLTLCLVFPVKRFLFELCCIGS

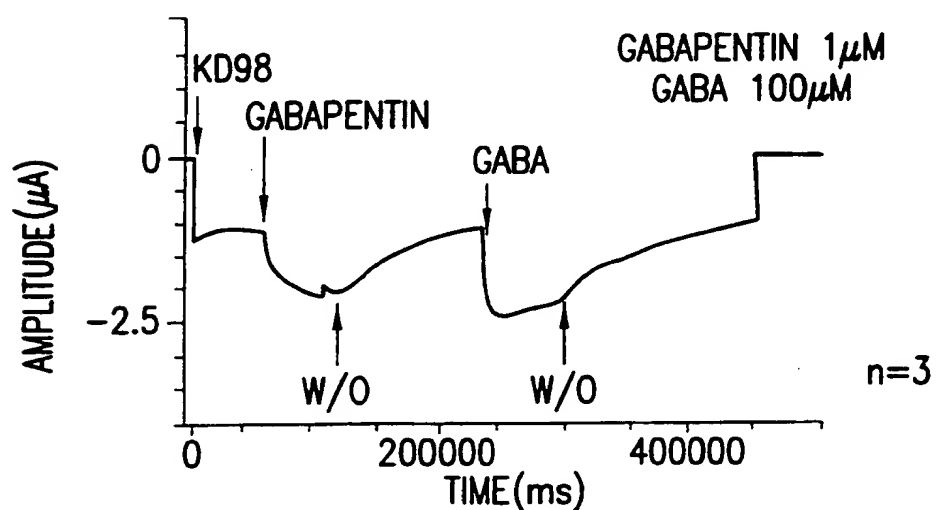
FIG.8B

13/23



99122015 DAT 1999/01/22 15:18:41 [00:16:00]

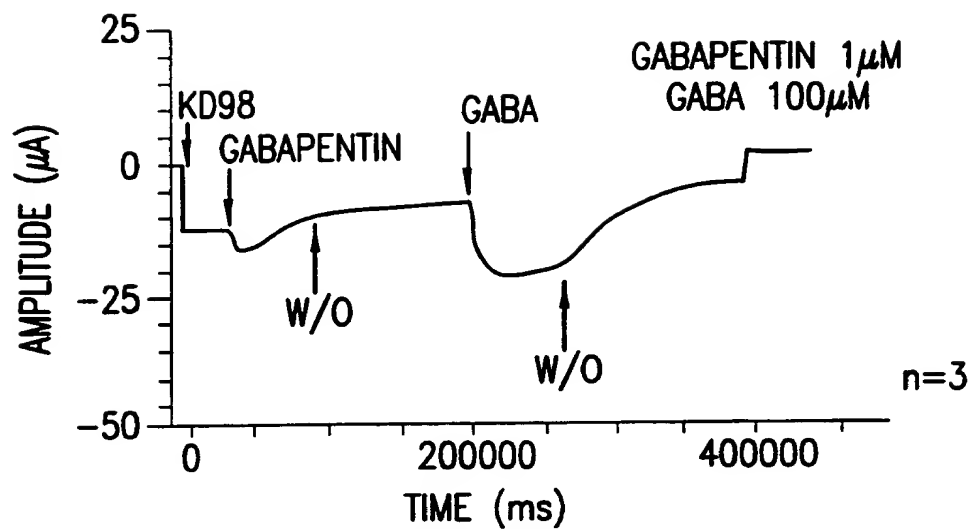
FIG.9A



99122021 DAT 1999/01/22 16:49:35 [00:32:42]

FIG.9B

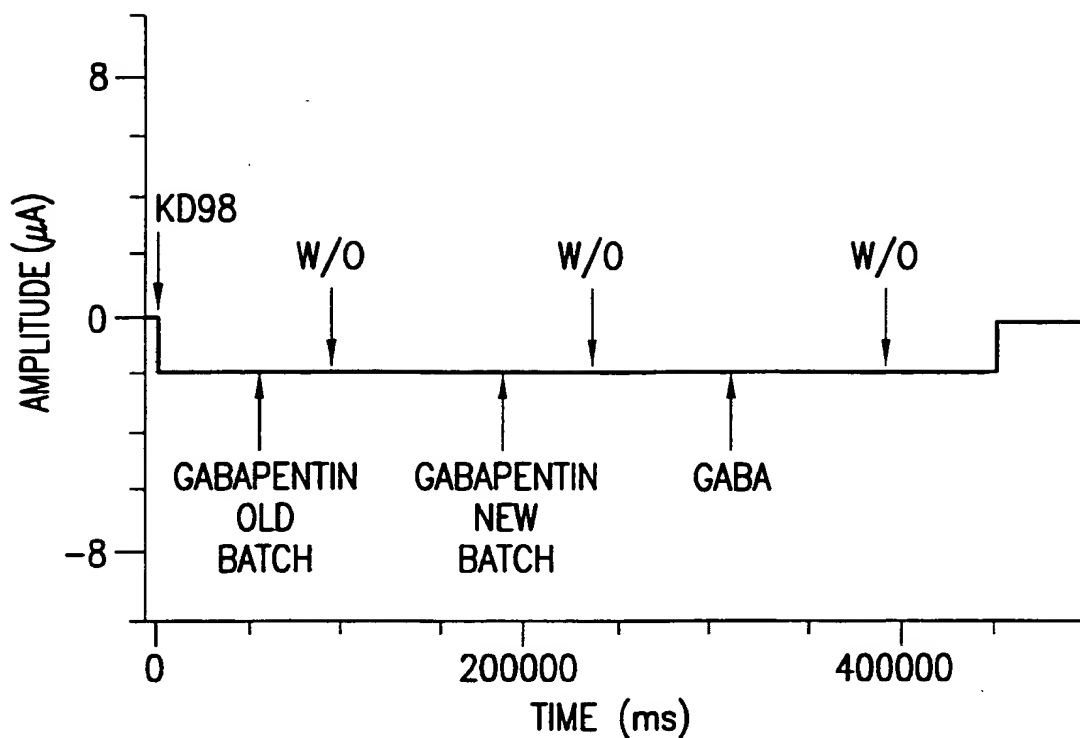
14/23



90224006 DAT 1999/02/24 09:16:10 [00:03:07]

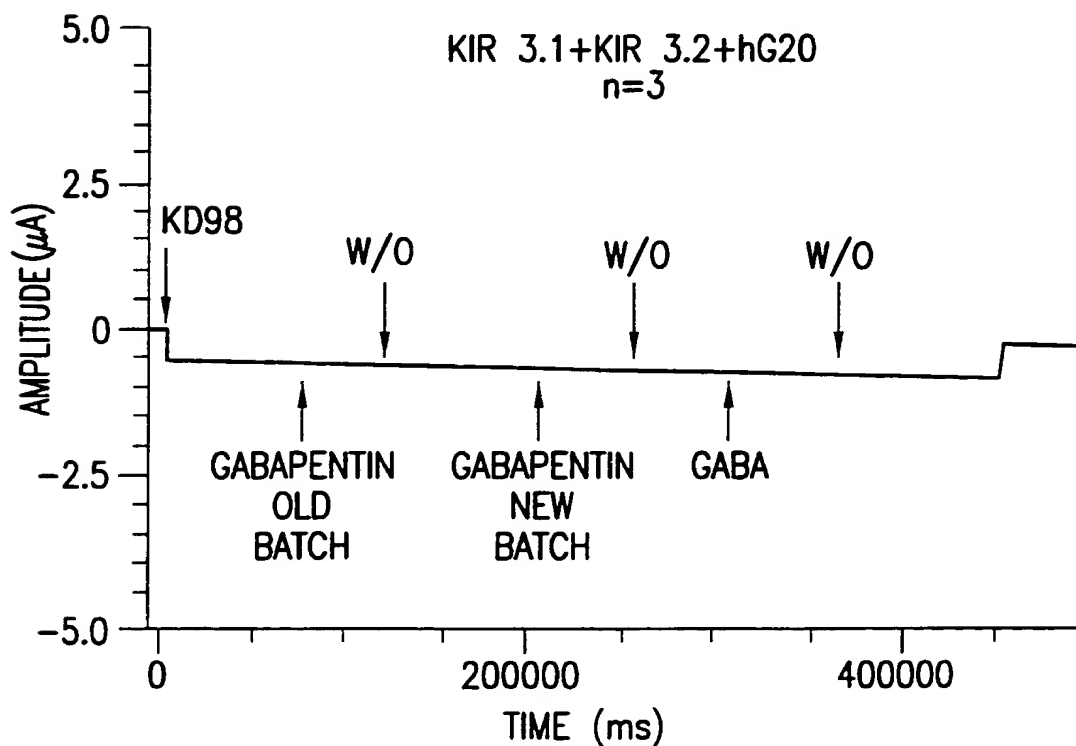
FIG.9C

15/23



99224016. DAT 1999/02/24 11:55:59 [00:04:09]

FIG.9D



99224020. DAT 1999/02/24 12:27:52 [00:04:35]

FIG.9E

16/23

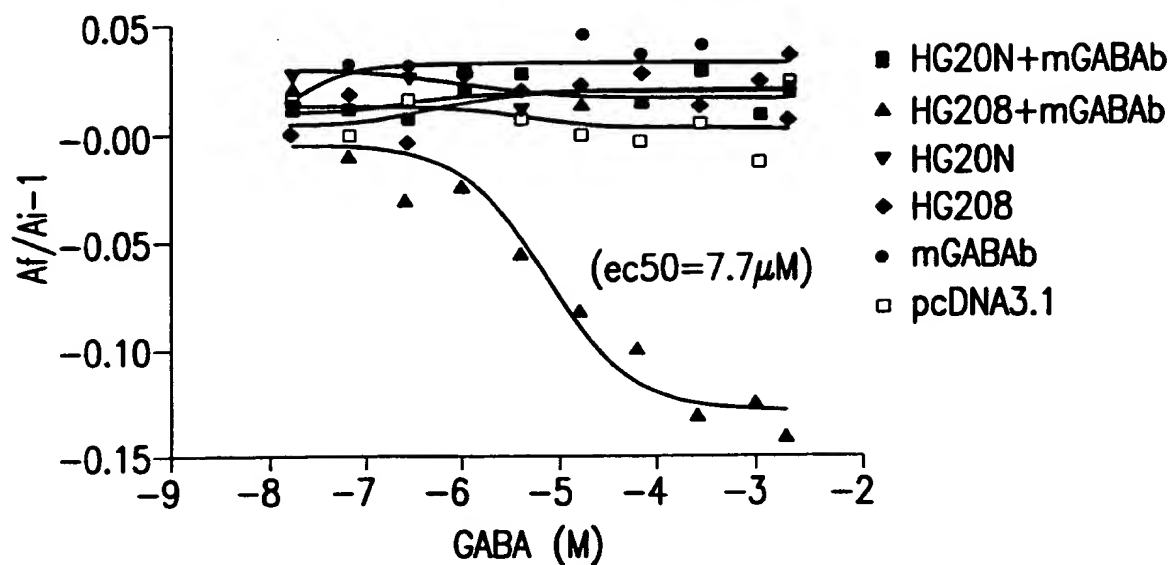


FIG.10A

Gi RESPONSE TO BACLOFEN

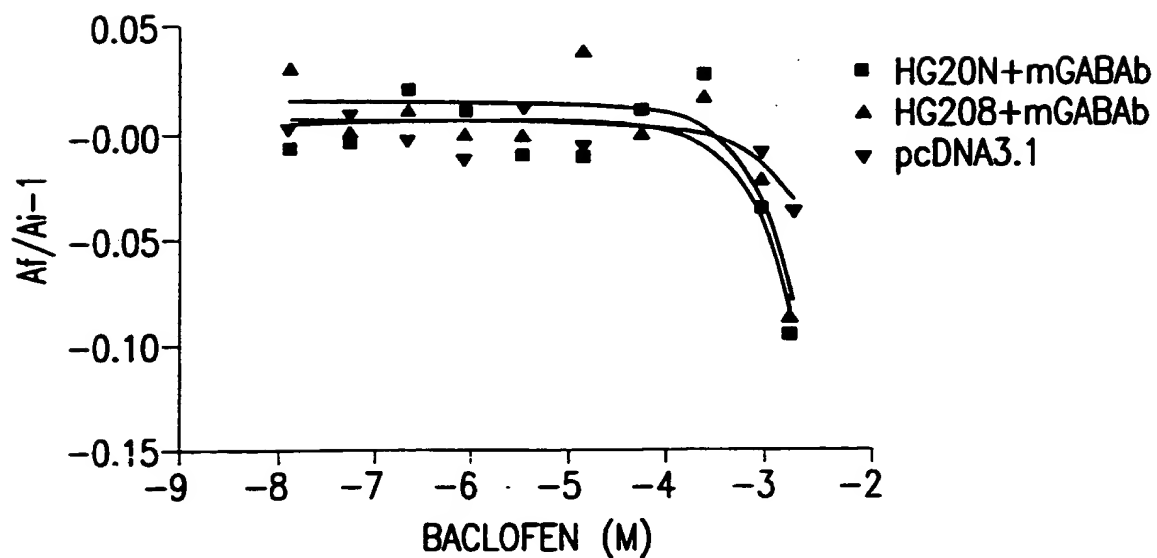
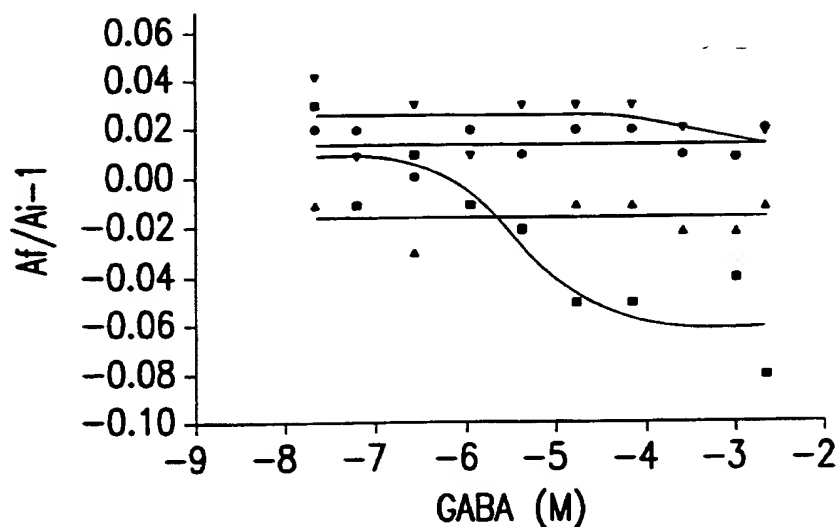


FIG.10B

17/23

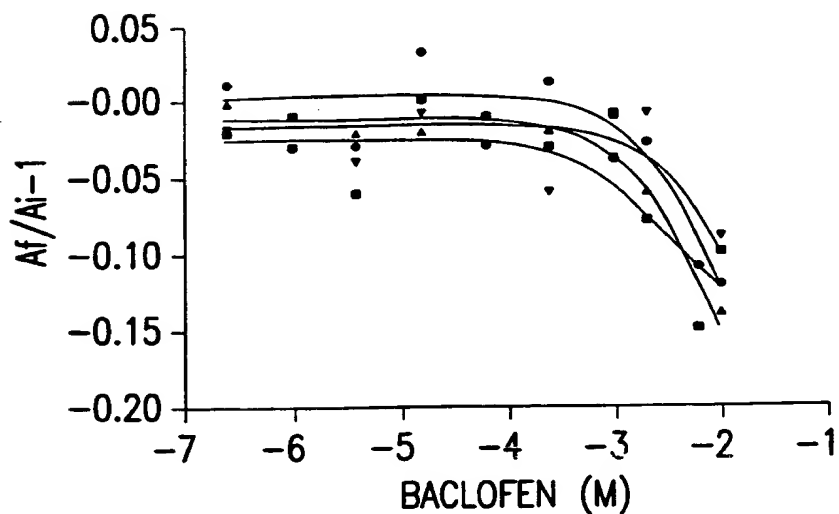


- HG208+mGABAb
- HG208+mGABAb+CGP
- pcDNA3.1
- HG208+mGABAb+CGP*

*CORRECTED DATA

 $EC_{50} = 3.6 \mu M$

FIG. 10C

HG208 +mGABAb Gi RESPONSE
TO BACLOFEN+/-CGP $1 \mu M$ 

- HG208+mGABAb
- HG208+mGABAb+CGP
- pcDNA3.1
- pcDNA3.1+CGP

FIG. 10D

18/23

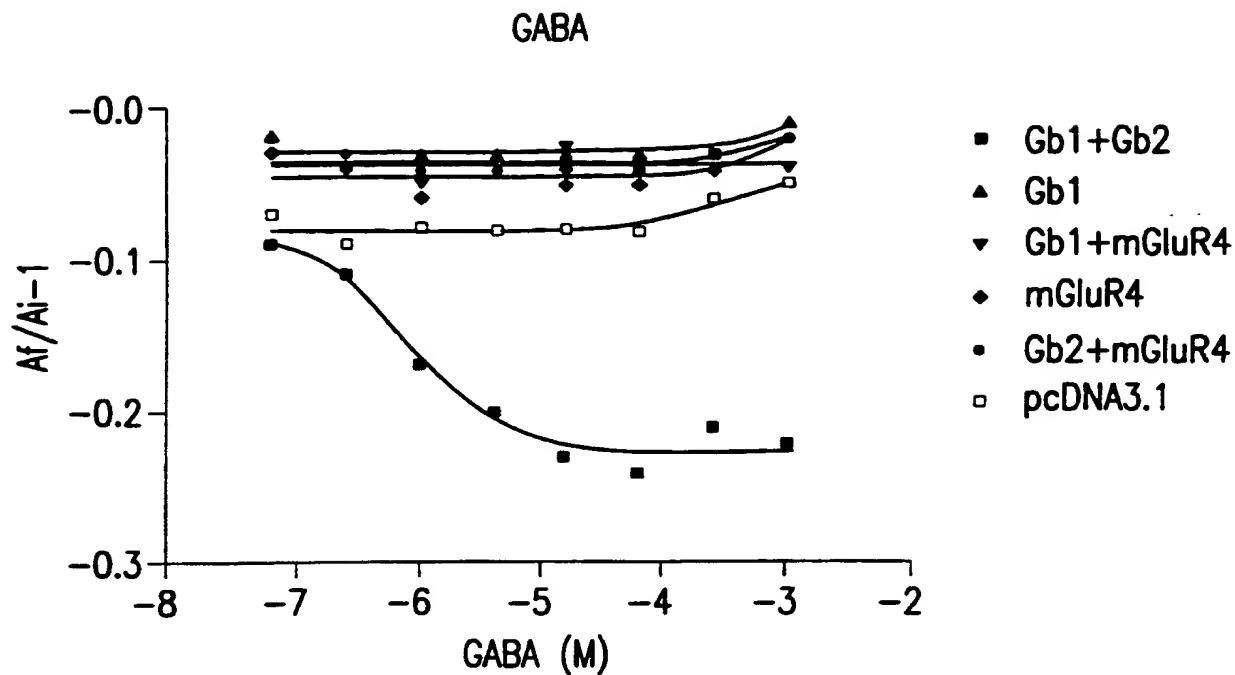


FIG.10E

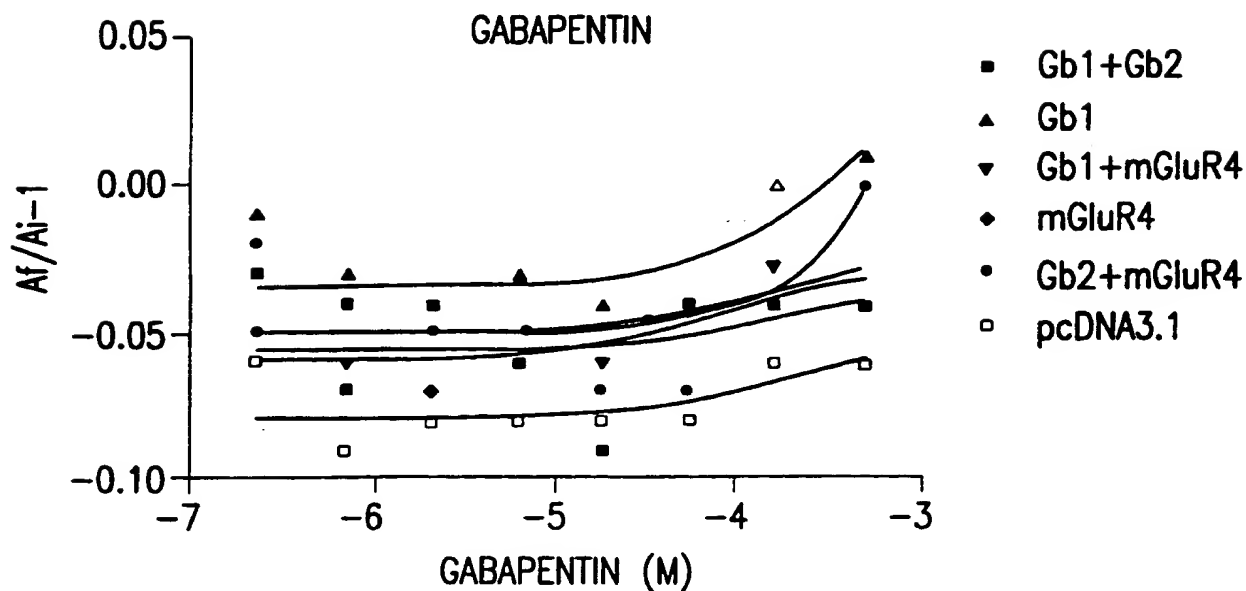
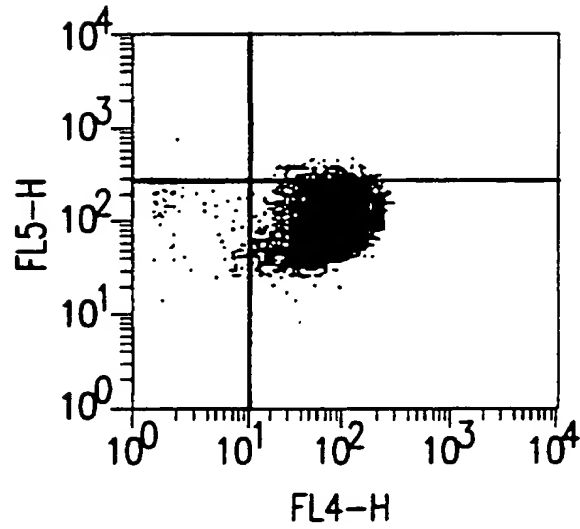


FIG.10F

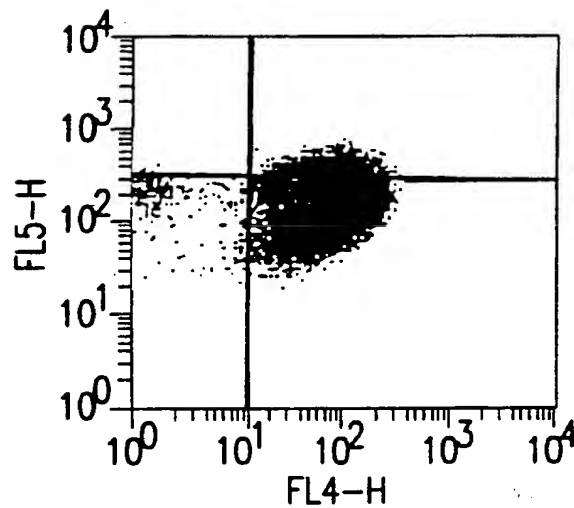
SUBSTITUTE SHEET (RULE 26)

19/23



QUAD	EVENTS	%GATED	%TOTAL
UL	1	0.00	0.00
UR	321	0.44	0.32
LL	91	0.12	0.00
LR	73362	99.44	73.38

FIG.11A



QUAD	EVENTS	%GATED	%TOTAL
UL	14	0.03	0.01
UR	6907	12.35	6.91
LL	285	.51	0.28
LR	48716	87.11	48.72

FIG.11B

SUBSTITUTE SHEET (RULE 26)

20/23

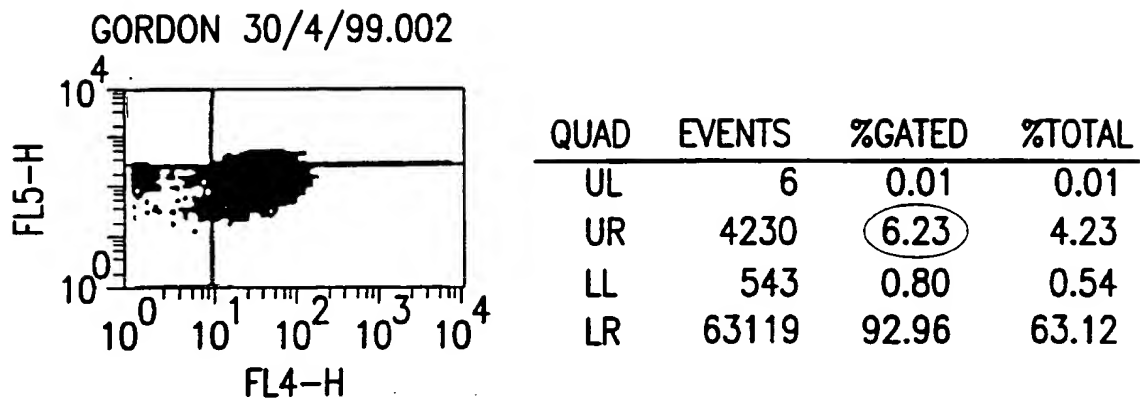


FIG.11C

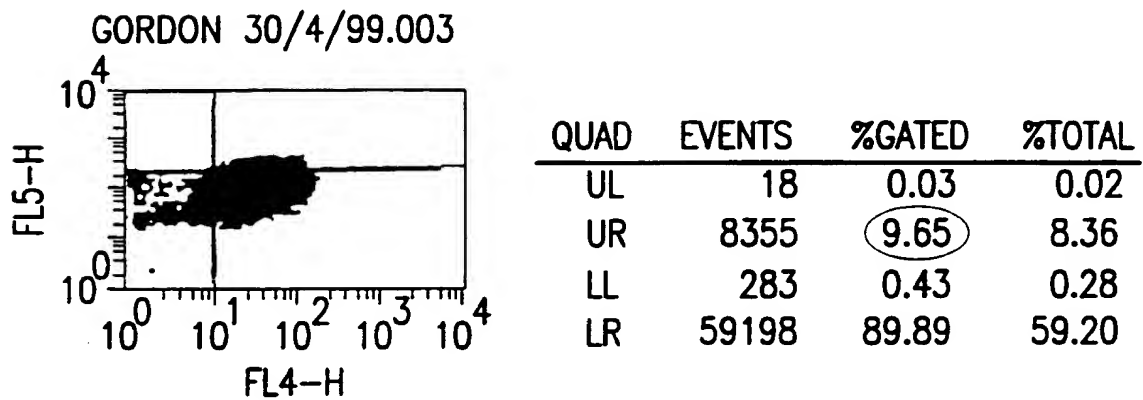
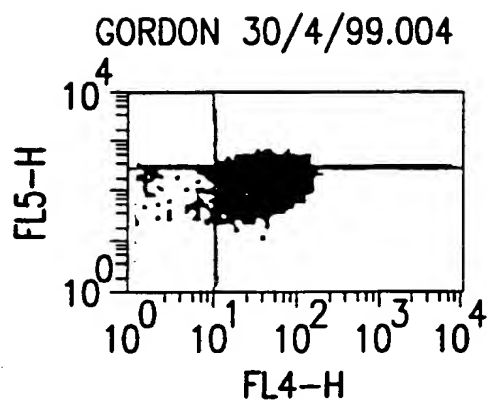


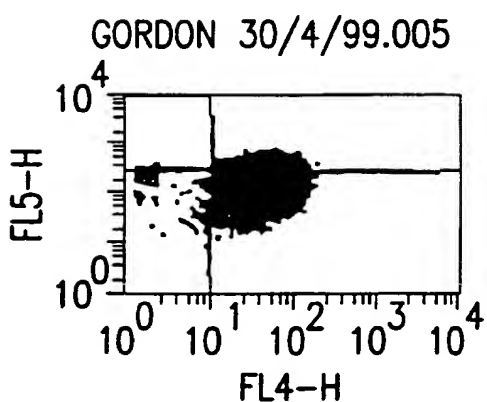
FIG.11D

21/23



QUAD	EVENTS	%GATED	%TOTAL
UL	3	0.00	0.00
UR	5795	7.98	5.80
LL	124	0.17	0.12
LR	66715	91.85	66.72

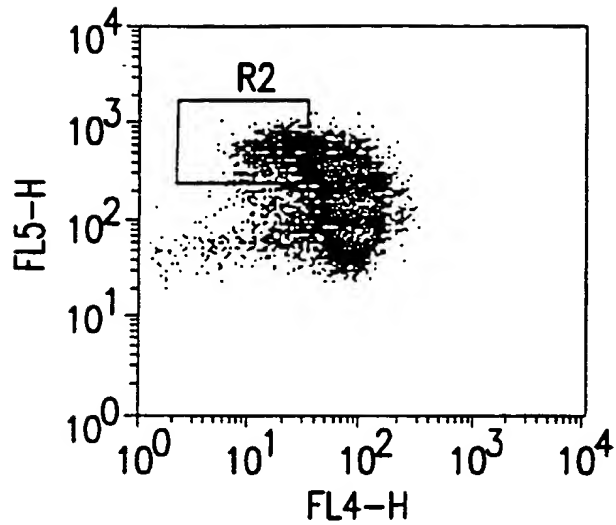
FIG.11E



QUAD	EVENTS	%GATED	%TOTAL
UL	2	0.00	0.00
UR	6601	9.38	6.60
LL	130	0.18	0.13
LR	63651	90.43	63.65

FIG.11F

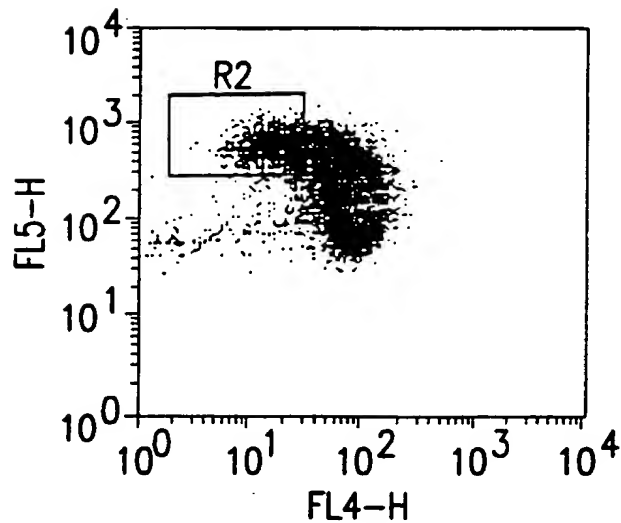
22 /23



GATED EVENTS: 17691 TOTAL

REGION	EVENTS	%GATED	%TOTAL
R1	17691	100.00	35.38
R2	1171	6.62	2.34

FIG.12A

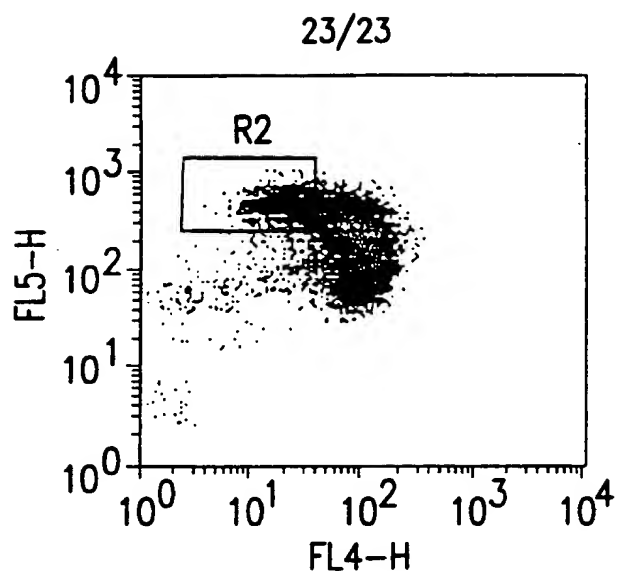


GATED EVENTS: 19589 TOTAL

REGION	EVENTS	%GATED	%TOTAL
R1	19589	100.00	39.18
R2	1859	9.49	3.72

FIG.12B

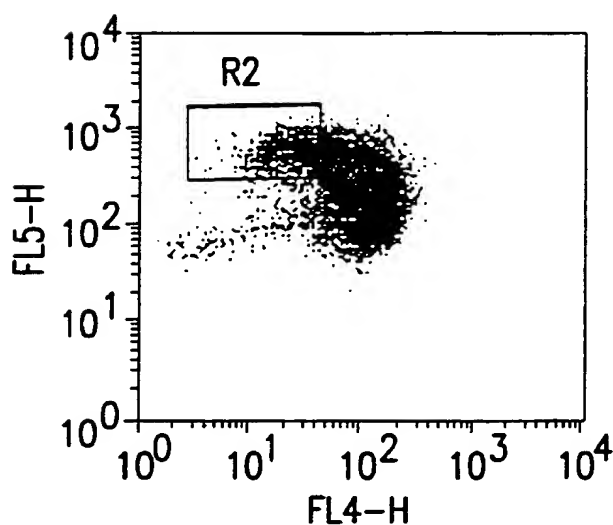
SUBSTITUTE SHEET (RULE 26)



GATED EVENTS: 19418 TOTAL

REGION	EVENTS	%GATED	%TOTAL
R1	19589	100.00	38.84
R2	1859	10.02	3.89

FIG.12C



GATED EVENTS: 18786 TOTAL

REGION	EVENTS	%GATED	%TOTAL
R1	18786	100.00	37.57
R2	1454	7.74	2.91

FIG.12D

SUBSTITUTE SHEET (RULE 26)